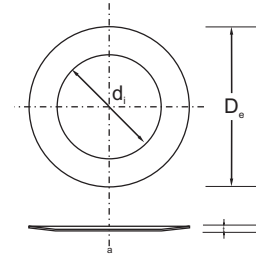


# BP Series Disc Springs

## for BALL BEARING APPLICATIONS



Material : C1075 or Chrome-Vanadium Steel  
Surface Finish : Natural Oiled or phosphates

● Load tolerances :  $\pm 20\%$  at 75h

### Bearing Disc Springs & Washers (Plain, Slotted and Multi Wave)

Disc and Belleville Inc. Stocks all types of Ball Bearing Disc Springs Plain, Slotted Preloading Bearing Washers. Ball-Bearing Disc Springs are used with radial Ball bearings to minimize vibration and shaft deflection. Proper preloading will increase bearing rigidity and eliminate excessive wear & tear and running noise.

### Advantages of Ball Bearing Disc Springs

1. ) Significant increase or decrease in applied force even with small variation in deflection..
2. ) Backlash compensation & regressive curves help reduce preload variations changes.
3. ) Very low force characteristic with very large deflection range.
4. ) Multiplication of force by stacking of two or more in parallel.
5. ) Available in all size to accommodate all bearing sizes.
6. ) Elimination of noise and play in Ball Bearings.
7. ) Round shape ensures equal distribution of load on the bearing ring.

Application of Preloaded Bearing Washers in Electric motors helps to reduce operating noise. The preload force remains practically constant when there is axial displacement of the bearing as a result of thermal expansion.

If preload is primarily to protect the bearing from vibration damage when stationary, then greater preload is required.

### Plain Ball Bearing Washers

Part No.	Ball Bearing designation no.	Dimension (mm)			Height "h" (mm)	L0.50 (mm)	F0.50 (N)	L0.75 (mm)	F0.75 (N)
		D <sub>e</sub>	d <sub>i</sub>	Thickness "t"					
BP-090620	623	9.8	6.2	0.20	0.40	0.10	19	0.15	24
BP-120725	624	12.8	7.2	0.25	0.50	0.12	24	0.19	29
BP-150825	625 634	15.8	8.2	0.25	0.55	0.15	20	0.22	23
BP-180930	626 635	18.8	9.2	0.30	0.65	0.17	26	0.26	31
BP-181035	607	18.8	10.2	0.35	0.70	0.17	40	0.26	51
BP-211235	608 627	21.8	12.3	0.35	0.75	0.20	38	0.30	46
BP-231440	609	23.7	14.3	0.40	0.90	0.25	69	0.37	80
BP-251440	6000 629	25.7	14.3	0.40	0.90	0.25	54	0.37	64
BP-271740	6001	27.7	17.3	0.40	1.00	0.30	73	0.45	80
BP-291740	6200	29.7	17.3	0.40	1.10	0.35	80	0.52	82
BP-312040	6002 6201	31.7	20.4	0.40	1.10	0.35	79	0.52	81
BP-342040	6300	34.6	20.4	0.40	1.10	0.35	60	0.52	61
BP-342250	6003 6202	34.6	22.4	0.50	1.20	0.35	106	0.52	119
BP-362050	6301	36.6	20.4	0.50	1.30	0.40	103	0.60	111
BP-392550	6203	39.6	25.5	0.50	1.30	0.40	103	0.60	111
BP-412550	6004 6302	41.6	25.5	0.50	1.40	0.45	113	0.67	114
BP-463060	6005 6204 6303	46.5	30.5	0.60	1.50	0.45	140	0.67	155
BP-513560	6205 6304	51.5	35.5	0.60	1.50	0.45	124	0.67	135
BP-544060	6006	54.5	40.5	0.60	1.50	0.45	127	0.67	140
BP-614070	6007 6206 6305	61.5	40.5	0.70	1.80	0.55	164	0.82	186
BP-675070	6008	67.5	50.5	0.70	1.70	0.50	143	0.75	160
BP-714570	6306	71.5	45.5	0.70	2.10	0.70	190	1.05	185

Plain Ball Bearing Washers									
Part No.	Ball Bearing designation no.	Dimension (mm)			Height "h" (mm)	L0.50 (mm)	F0.50 (N)	L0.75 (mm)	F0.75 (N)
		D <sub>e</sub>	d <sub>i</sub>	Thickness "t"					
BP-715070	6207	71.5	50.5	0.70	2.10	0.70	223	1.05	217
BP-745580	6009	74.5	55.5	0.80	1.90	0.55	186	0.82	212
BP-795080	6307	79.5	50.5	0.80	2.30	0.75	228	1.12	228
BP-795580	6010 6208	79.5	55.5	0.80	2.30	0.75	264	1.12	264
BP-846090	6209	84.5	60.5	0.90	2.50	0.80	352	1.20	357
BP-896090	6308	89.5	60.5	0.90	2.50	0.80	284	1.20	288
BP-896590	6011 6210	89.5	65.5	0.90	2.50	0.80	330	1.20	333
BP-947510	6012	94.5	75.5	1.00	2.20	0.60	272	0.90	325
BP-996510	6309	99.0	65.5	1.00	2.60	0.80	274	1.20	293
BP-997010	6013 6211	99.0	70.5	1.00	2.60	0.80	312	1.20	333
BP-1097012	6310	109.0	70.5	1.25	2.70	0.73	294	1.09	356
BP-1097512	6014 6212	109.0	75.5	1.25	2.70	0.73	327	1.09	394
BP-1149012	6015	114.0	90.5	1.25	2.45	0.60	311	0.90	396
BP-1197512	6311	119.0	75.5	1.25	2.80	0.78	270	1.16	319
BP-1198512	6213	119.0	85.5	1.25	2.80	0.78	331	1.16	391
BP-1249012	6016 6214	124.0	90.5	1.25	3.00	0.88	392	1.31	441
BP-1298512	6312	129.0	85.5	1.25	3.20	0.98	375	1.46	402
BP-1299512	6017 6215	129.0	95.5	1.25	3.20	0.98	328	1.46	441
BP-1399012	6313	139.0	90.5	1.25	3.25	1.00	329	1.50	353
BP-13910112	6018 6216	139.0	101.0	1.25	3.25	1.00	398	1.50	427
BP-1499515	6314	149.0	95.5	1.50	3.20	0.85	312	1.28	380
BP-14910615	6020 6217	149.0	106.0	1.50	3.20	0.85	368	1.28	448
BP-15910115	6315	159.0	101.0	1.50	3.50	1.00	356	1.50	409
BP-15911115	6021 6218	159.0	111.0	1.50	3.50	1.00	415	1.50	477
BP-16911115	6316	169.0	111.0	1.50	3.80	1.15	432	1.73	472
BP-16912115	6022 6219	169.0	121.0	1.50	3.80	1.15	497	1.73	542
BP-17912120	6317	179.0	121.0	2.00	4.20	1.10	702	1.65	861
BP-17912620	6024 6220	179.0	126.0	2.00	4.20	1.10	761	1.65	934
BP-18912120	6318	189.0	121.0	2.00	4.30	1.15	628	1.73	760
BP-18913120	6221	189.0	131.0	2.00	4.30	1.15	702	1.73	849
BP-19813120	6319	198.0	131.0	2.00	4.50	1.25	691	1.88	813
BP-19814120	6026 6222	198.0	141.0	2.00	4.50	1.25	779	1.88	917
BP-21315122	6224 6320	213.0	151.0	2.25	4.50	1.12	746	1.69	941
BP-22316122	6030 6321	223.0	161.0	2.25	4.60	1.17	747	1.76	933
BP-22816122	6226	228.0	161.0	2.25	4.95	1.35	864	2.02	1030
BP-23816122	6032 6322	238.0	161.0	2.25	5.25	1.50	886	2.25	1020
BP-24817125	6228	248.0	171.0	2.50	5.00	1.25	795	1.88	1000
BP-25817125	6034 6324	258.0	171.0	2.50	5.50	1.50	928	2.25	1108
BP-26818125	6230	268.0	181.0	2.50	5.70	1.60	990	2.40	1160
BP-27818125	6036 6326	278.0	181.0	2.50	6.00	1.75	1020	2.63	1160
BP-28819127	6038 6232	288.0	191.0	2.75	5.75	1.50	931	2.25	1150
BP-29819127	6328	298.0	191.0	2.75	6.35	1.80	1130	2.70	1310
BP-30820230	6040 6234	308.0	202.0	3.00	6.10	1.55	1050	2.33	1300
BP-31821230	6236 6330	318.0	212.0	3.00	6.20	1.60	1060	2.40	1300
BP-33823230	6044 6238 6332	338.0	232.0	3.00	6.60	1.80	1180	2.70	1410
BP-35824230	6048 6240 6334	358.0	242.0	3.00	7.20	2.10	1350	3.15	1530